Undated. Electric Light (NS-Undated-003)

If a small piece of metallic Silicum be placed between the
Carbon points of an Electric Light and ~~the~~ a
Weight be placed on the ~~top~~ upper vertical Carbon. The
passage of the Current will heat the Silicum
& Cause the Electric arc to appear
this Continues indefinitely the Silicum
~~serving both as a Conductor to a~~
~~seperator and a means of~~ preserving
the continuity of the arc by its conductivity
~~as a metal~~ & by its presence as a
seperator of the two Carbons; = Boron
does not answer so well = I have only
tried it with a ~~small light~~ few elements of somewhat high resistance =

If one of the poles of 50 cells of ~~carbon~~ bunsen battery ~~be~~
is Armed with a stout platina wire,
and the other pole connected to
a series of disks of different metals.
The touch of the platina to any one
of the disks will give the Electric
arc, but if a condensers of 10 microfards
Capacity be connected from pole to
pole; the Electric arc cannot be
obtained but in its place, the most
beautiful scintillation are obtained ~~sh~~ ~~only~~ ~~only~~ these scintillations are obtained only
touching the metals with the platina point ~~&~~ not on disconnecting
The scintillations ~~in the case of iron~~
~~radiate out own from~~ shoot out like
the rays of the sun with inconceivable
rapidity and ~~sometimes~~ in the case
of iron reach a length of 12 to 20
inches; These scintillations ~~of~~ the
different metals are peculiar.
not on account of their color but
on account of each metal producing

scintillations of a different character. With iron they ~~are very~~ are quite fine and are thick near their apparent centre – with aluminium they a very thick and few in numb ~~of them~~. and they shoot out straight(?) & then ~~Each~~ turn at right angle ~~[illegible]~~ downwards, With lead the scintillations are as fine as the finest spiders web – ~~and [illegible]~~ and many of them are not seen until several inches from the platina = These scintillations have other peculiarities such as forked ends of various kind, etc

Paper left for 2 weeks in a 1 gram solution ~~a 100cc~~ of Manganate of soda in 100cc is completely disintegrated and when dry crumbles to a very fine black powder =

= Notes =

and Experiments to be tried

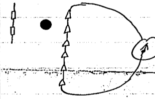
notes.

Grind on the glass slab with oil Oxide of Titanium until it is as fine as lampblack I propose to mix this with Iridium or platinum because it will become a conductor when the heat get high & by proper proportion it may itself regulate the temperature because it ~~[illegible]~~ tend to reduce the resistance #.

Oxychloride Zinc Cement = Hard as marble & work same as plaster paris.
Sol $ZnCl$ 1.49 to 1.65 Spec G. disolves 3 pc borax or Sal amonác add oxide Zinc which has been heated to redness until mass proper consistance, This cement became as hard as marble.

Alumina infusible Mitchell manuel assay page 122

Try this



platinum cones fastened together with small platinum wire, generate Electric Current because the taper and become hotter than the large End, perhaps an incandescent spiral would be helped this way. Try alcohol lamp on this, using vapor

Make a stick of lampblack or Graphite with peroxide of lead — Chromic acid — peroxide Mangen Litharge.

Following minerals infusible in blow pipe
Quartz. Corundum Spinel Zeylanite.
Pleonaste. Automolite Gahnite Olivine
Cerite. Zircon. Desthène Cyanite. Leucite
Talc Gehlenite, Anthophyllite. Staurolite
Kymophane Gadolinite —

The following phosphoresce on being heated
Rutile Titaneisen Tantalite Turquoise
Calcite. Chondrodite Topaz.

The following are fusible with difficulty
or only on the Edges
Adularite Tetartine Albite. Petalite
Labradorite. Anorthite Tabular Spar
Meerschaum. Speckstein Serpentine.
Epidote Vide Mitchell page 227.

do
Baryta alone is infusible (ie Caustic Baryta
heated red hot)

H.P.	Coal consumed per hour	Coal consumed per day	Coal Expense per day $3 per ton	Expense per year of 365 days
3600	6000 lbs	30 Tons	$90	$32,850
1800	3000 "	15 "	$45	$16,425
900	1500 "	7½ "	$22.50	$8,212½
450	750 "	3¾ "	$11.25	$4,107
225	375 "	3750 lbs	$5.62½	$2,053
112	187½ "	1875 "	$2.81¼	$1026.50
56	93½ "	937½	$1.41	$513½
28	46¾ "	467¾	.71¢	$256.25
14	23 3/8 "	233	35½ "	$128
7	11 5/8 "	116	.18	$64
3½	5 7/8 "	58	.9	$32
1 5/8	2 7/8 "	29	4½	$16.

If one spiral per H.P. Costs $9 per year then

2 spirals costs $4.50 per year
3 " " $3.00 " "
4 " " $2.25 " "
5 " " $1.80 " "
6 " " 1.50 " "
7 " — " 128½ " "
8 " — " 112½ " "
~~9~~ " — " 100 " "
10 " — " 90¢ " "
11 " — " .82 " "
12 " — " 75 " "
13 " — " 69¼ " "
14 " — " 64¼ " "

Computations based on actual service of Corliss Engine in a test pumping Works.

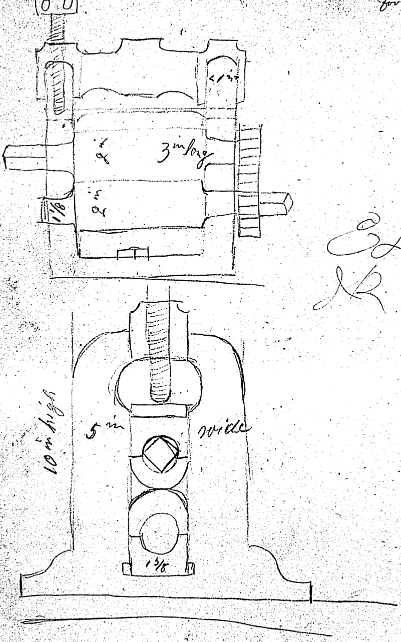
	H.P. Horsepower	Coal consumed per hour	Coal per Day Consumed	Expense per Day Coal at $3 pr t	Expense per year of 365 Days
	3600	6000 lbs	30 Tons	$90.	$32,850
	1800	3000 "	15 "	$45	$16,425
	900	1500 "	7½ "	$22,50	$8,212½
	450	750 "	3¾ "	$11,25	4107
	225	375 "	3750 lbs	5,62½	2,053½
point	112	187½	1875 "	2,81¼	1026½
	56	93½	937½ "	$1,41	513½
	28	46¾	467¾ "	.71 ¢	256¼
	14	23⅜	233 "	.35½ "	128
	7	11⅝	116 "	.18 "	64
	3½	5⅞	58 "	.9 "	32
	1⅝	2⅞	29 "	.4½ "	16

If one spiral per H.P. costs $9 per year then

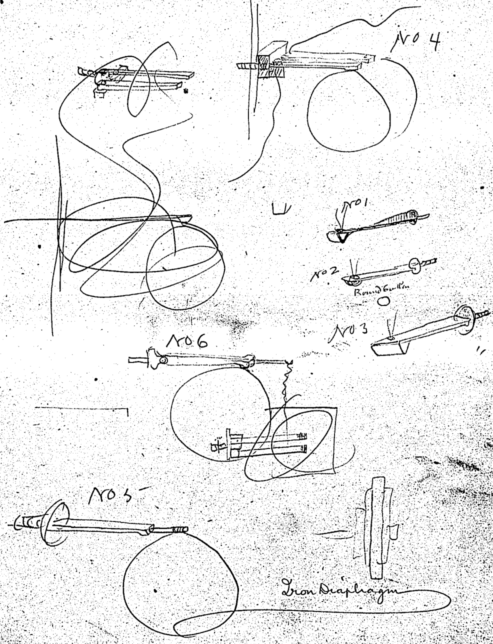
spiral	Per year
1	$9,00
2	4,50
3	3,00
4	2,25
5	1,80
6	1,50
7	1,28½
8	1,12½
9	1,00
10	90 ¢
11	82.
12	75
13	69¼
14	64¼

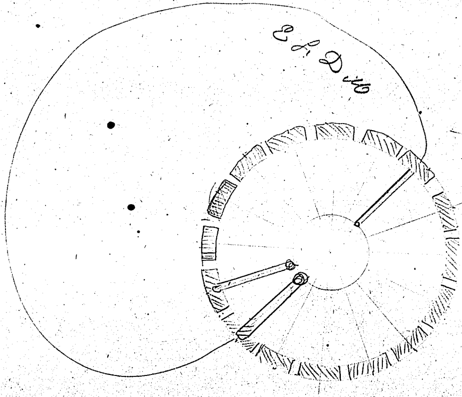
for Kruesi

~~#27~~



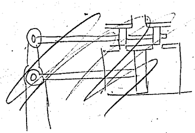
0 0
1¾
2 in
3 in long
2 in
1 1/8
10 in high
5 in
wide
1 3/8

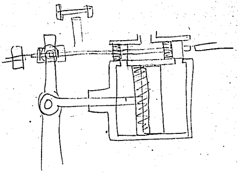

No 4
No 1
No 2
Round Gutta
No 3
No 6
No 5
Iron Diaphragm

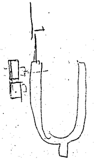


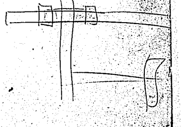
6	23 ✓
6	26 ✓
6	30 ✓
6	36 ✓
12	30 ✓

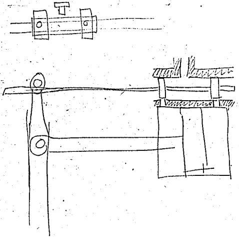
Harm. Dub
J.K.



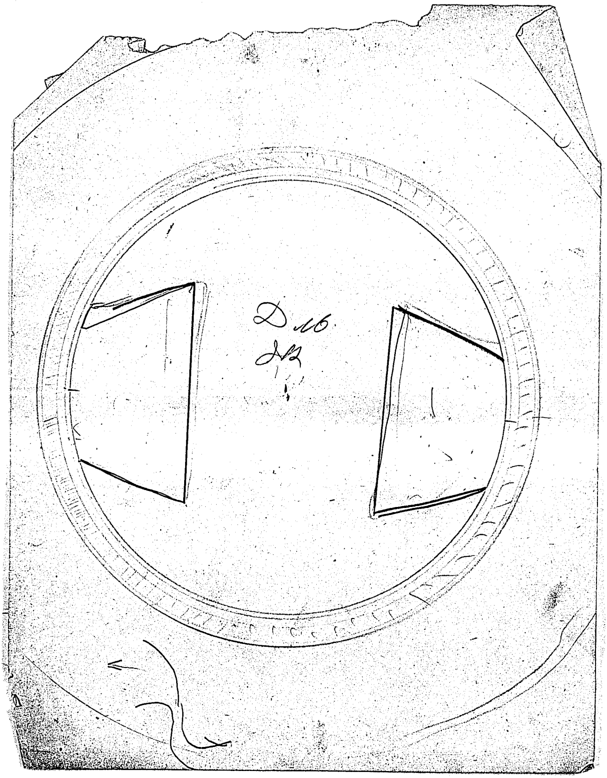




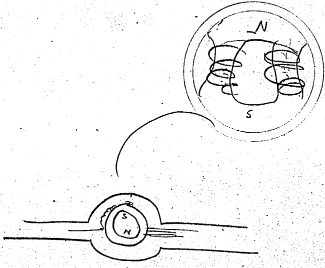


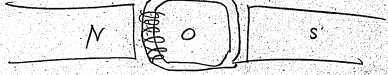


DMC
JB



D 16.

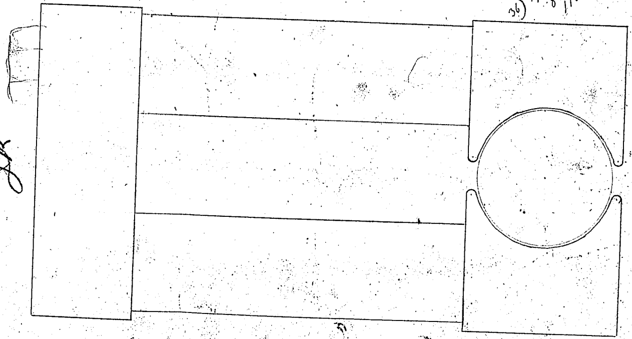

N
S
S
N


N
O
S

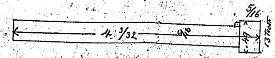
Jean de [illegible]

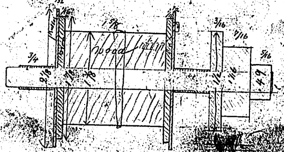
32
13
96
32
416

184
314
748
187
561
58718
144
36) 4431 8 = 123 144
83
111



7
6
5/8


4 3/32
5/16
5/16
.49
13 Teeth

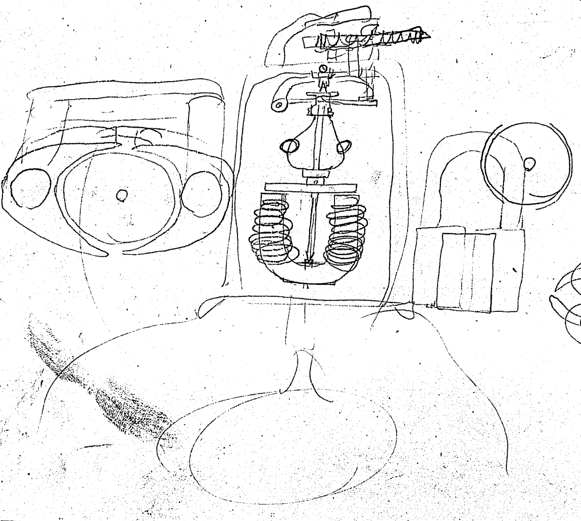

1/32
1/16
1 5/8
3/16
7/16
5/16
3/4
Wood
2 1/8
1 7/8
1 7/8
1 1/2
1 1/16
.49

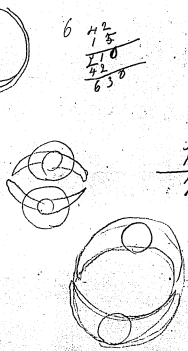
25.79
11.82
37.61

~~Platt~~
Woodman

2.787

95.552
6
57.331
28.665
41.924
257.9895





6 42
15
210
42
630

.2787
630
83610
16722
1.755810

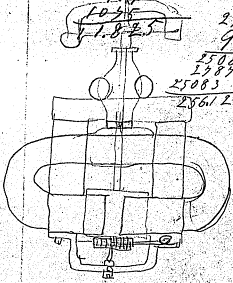
57331
175
748

E.R.

6075

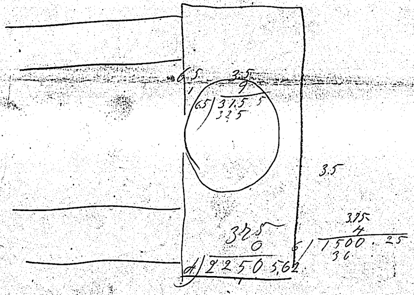
625
7
4375
21
4375
8750
175)918.75
55
1675
1575
1.825

91875
2787
919
25083
2787
25083
256.1253

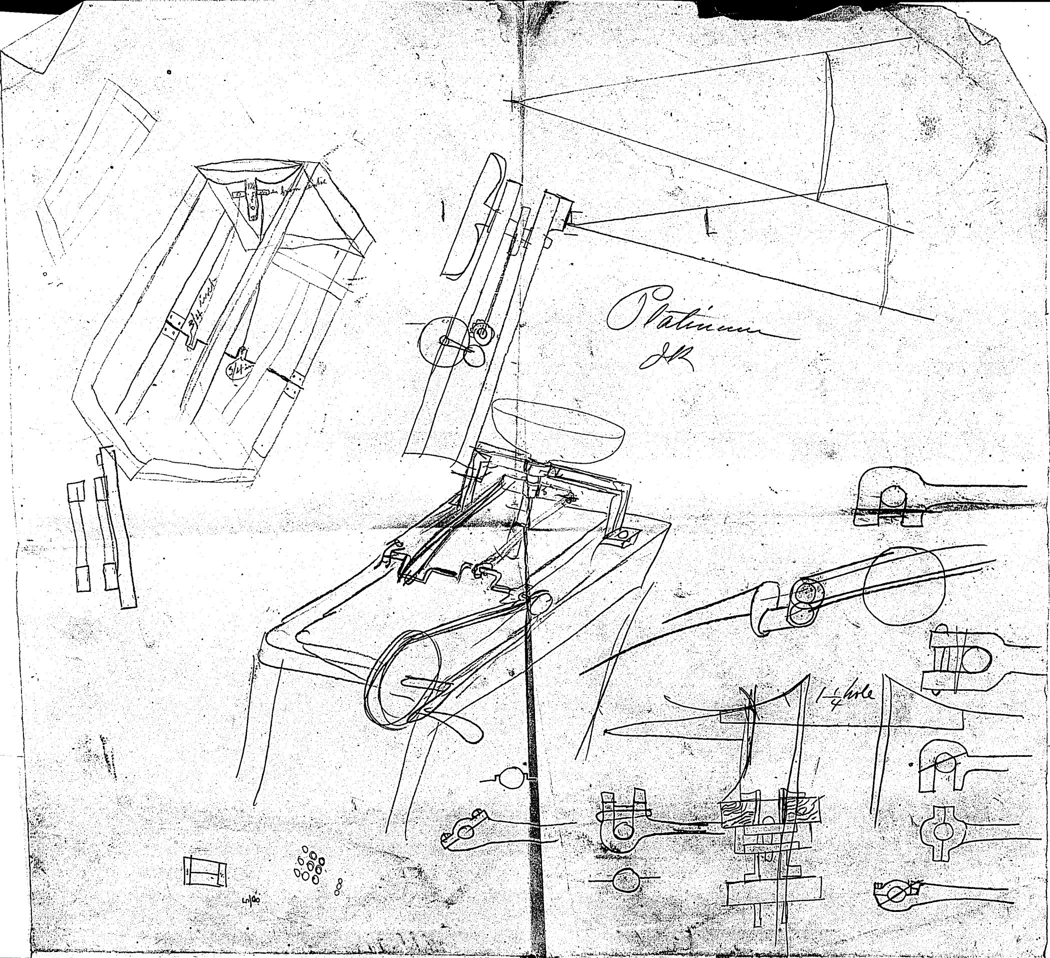


3 2×3 pine 16ft long
60 □ft of matched ½ inch 6 in wide
16 ft long.

2 lbs of 4 p. nails


6.5
3.5
9
6.5
31.5
32.5
3.5
375
0
4
2250
5.62
3.75
4
6
1500
.25
36

THE REDUCTION RATIO FOR THIS DOCUMENT IS 18:1


1 1/4
6 in
in from centre
3/4 inch
5/4 in
1 1/4 hole
6/00

Platinum

JR